UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,432	10/08/2003	Hisashi Isozaki	017498-0171	4198

22428 7590 08/09/2007

FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER	
PHAM, HOA Q	

ART UNIT	PAPER NUMBER
2886	

MAIL DATE	DELIVERY MODE
08/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/680,432	ISOZAKI ET AL.	
	Examiner	Art Unit	
	Hoa Q. Pham	2886	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/4/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/4/07 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1, line 12, claim 8, line 14 and claim 11, line 16; the limitation "wherein the inspection subjects to be measured are mixed in line" is not understood and it does not make any sense. What does applicant means by that? Applicant should clarify this matter in the next response.

b. Claims 6-7, 9-10 and 12-15 are dependent; therefore, inherit the deficiencies of the claims on which they depend.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kupershmidt et al (5,548,404) in view of Chao et al (5,381,233).

Regarding claims 5, 8 and 11, Kupershmidt et al discloses a method and apparatus for determining the index refraction and film thickness of a sample (54) comprises a storage unit (44a) storing inspection data regarding an inspection apparatus (figure 1) and film parameters regarding the film on the inspection subject by associating with each other so as to obtain predetermined inspection condition (calibration) (column 12, lines 19-23); two or more kinds of laser (48) which emit luminance flux having different wavelengths (λ_1 and λ_2) to each other are switched or mixed to make the laser incident on the film coated inspection subjects at the same incident angle (θ). Kupershmidt et al teaches the use of DSP (46), input means, display means and output means (column 12, lines 57-60) and does not explicitly teach that the inspection conditions (i.e., wavelength of a laser, an incident angle, and a polarization) are automatically setting in the inspection apparatus by setting the film parameters of the inspection to be measured to the inspection apparatus by an operator when performing measurement. It is well known that an operator can perform the optimum surface inspection for the film-coated wafer and properly set the conditions for each measurement while associating

the film parameters (such as film thickness and refraction index) regarding the film on the wafer to be inspected with corresponding inspection data (such as wavelength of inspection light, polarization status, incident angle on wafer surface) of the inspection apparatus. It is not clear that the inspection conditions are automatically set; however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include in Kupershmidt et al means for automatically setting a wavelength of a laser, an incident angle and a polarization. The rationale for this modification would have arisen from the fact that by automatically setting conditions for inspection, time to set the conditions can be shortened.

Kupershmidt et al does not explicitly teach the films coated on the subjects having different thickness to each other; however, such a feature is known in the art as taught by Chao et al. Chao et al, from the same field of endeavor, disclose an apparatus for measuring the thickness of a film coated on a substrate in which the thicknesses of the films can be measured by an ellipsometer (column 7, line 59 through column 8, line 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the ellipsometer of Kupershmidt et al for determining the films coated on the substrate having different thicknesses to each other as taught by Chao et al because they both disclosed an ellipsometer.

Regarding claims 6, 9, 12 and 14, see abstract of Kupershmidt et al for the use of film parameters such as thickness and refractive index.

Regarding claims 7, 10, 13, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the basic device of

Kupershmidt et al to determine film thickness only because the device would function in the same manner.

Regarding claim 15, see figure 1 of Kupershmidt et al for the use of laser source (48), polarizers (26, 28) and incident angle (θ).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peterson (5,179,422) discloses a contamination detection system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoa Q. Pham whose telephone number is (571) 272-2426. The examiner can normally be reached on Monday through Friday, 8:00AM TO 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur Chowdhury can be reached on (571) 272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hoa Q. Pham
Primary Examiner
Art Unit 2886

HP
August 5, 2007